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OBSERVATIONS

ON

MERCURY.

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*Wm. H. Miller*

STATIONERS

ON

M. E. R. C. P. R. Y.

STATIONERS

OBSERVATIONS  
ON THE  
OPERATION AND USE  
OF  
MERCURY  
IN THE  
VENEREAL DISEASE.

BY  
ANDREW DUNCAN, M. D.

Fellow of the Royal College of Physicians, Edinburgh.

*Longe mihi potior cura est veritatis quam novitatis.*

MORGAGNI.

EDINBURGH:

Printed for A. KINCAID and W. CREECH;  
and for T. CADELL in the Strand, and  
J. MURRAY in Fleetstreet, London.



TO DR WILLIAM CULLEN,

S I R,

AN address of this nature can add nothing to your reputation. And professions of gratitude are but an inadequate return for real services. When, therefore, I inscribe this performance to you, it is neither my intention to enlarge upon your character, nor to recount the many obligations for which I am indebted to you. But, as I am happy in being favoured with your countenance, and proud of the honour it does me, allow me to take this opportunity of expressing it.

As I have long since adopted the wish, permit me, on this occasion, to use the language of a celebrated English Poet :

O ! while along the stream of time thy name  
Expanded flies and gathers all its fame ;  
Say, shall my little bark attendant fail,  
Pursue the triumph and partake the gale ?  
And shall this verse to future age pretend  
Thou wert my guide, philosopher, and friend ?

I am SIR,

With unfeigned esteem,

And sincere regard,

Your much obliged,

And most obedient Servant,

THE AUTHOR.

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# P R E F A C E.

**T**H E chief purpose of the study of medicine is to acquire the knowledge of a safe and effectual method of curing diseases. The attainment of this end is intimately connected with the public good. Every endeavour to promote it, therefore, may be considered as having some claim to a candid examination. In this persuasion, I submit the following observations to public inspection.

F E W diseases are at present more common than *lues venerea*. For its cure, mercury is a medicine which is almost universally employed; and the efficacy with which it operates has long been confirmed by unquestionable experience. But the successful employment of mercury in

this disease requires very particular attention ; and it is to be regretted, that, while many suffer from the distemper, not a few fall victims to what is used as the remedy : All therefore that has hitherto been said on this subject by no means supersedes farther attempts to improvement. To advance the practice of medicine in this particular, is the intention of the present publication.

NOTHING contributes more to safe and effectual practice, than an acquaintance with those principles on which remedies operate. Hence, inquiries concerning the operation of medicines have been, and ever will be, prosecuted by those who mean to practise on a solid or rational foundation. Many practitioners, indeed, hold every thing that is in the least theoretical, in great contempt. They

alledge, that a physician possesses all the knowledge requisite in medicine, who is acquainted with particular remedies which will infallibly cure particular diseases. Could such remedies be discovered, their reasoning would indeed hold good; and medicine, which, of all arts, is in reality the most difficult, would be the easiest. But it is incumbent on those who reason in this manner, to shew, that any such remedies actually do exist. This, however, is a point by no means determined; and, with regard to it, very great doubts may justly be entertained.

WITH certain limitations, some few such remedies may perhaps be allowed to exist. But no one will pretend, that these can, in every case, be employed with equal success; or that, in all circumstances, they are to be used in the

same manner. By a knowledge of the principles upon which a medicine operates in curing a disease, we can alone be enabled to accommodate its use to particular circumstances. He therefore who knows, not only that a certain remedy will cure a particular disease, but is likewise acquainted with the manner in which it acts in producing that effect, has at least a double advantage.

ERRORS in theory, indeed, often mislead in practice; and opinions, supported by numerous arguments, after being long believed, have at length been discovered to be without foundation. But this imperfect state of theory, in place of being any objection to its utility, is an additional inducement to continue, with unremitting ardour, a pursuit in which so much still remains to be done.

It is by unwearied assiduity alone that improvement can be expected in any art. The imperfection of theory, then, can be no argument for discontinuing farther attempts to render it more perfect.

THEORY in medicine is principally despised by two sets of practitioners, the ignorant and the lazy; the last are unwilling, and the first are unable, to acquire the knowledge of it; and, amidst all their boasted contempt, it will be found, that they principally differ from others in implicitly adopting whatever opinions they first receive. Theory is natural to the human mind; and those who are accustomed to think cannot be satisfied without assigning a reason for every phænomenon which falls under their observation. Theory by no means precludes observations: On the contrary, it leads to

a more minute attention to facts; and in this way opinions, of themselves ill founded, have often given rise to useful discoveries in practice. For these reasons, in treating of mercury in the venereal disease, I have esteemed it necessary to begin with some observations on its operations.

THERE are few medicines, with regard to the operation of which all practitioners are agreed. Mercury, as well as others, has, in this respect, been a subject of dispute. It is indeed the misfortune of medicine, that many points of great consequence still remain in a very doubtful state. But it affords at least some chance of arriving at truth, that, in the present age, it is never esteemed criminal to differ even from the highest authorities: On the contrary, those whose au-

thority should deservedly have the greatest weight, are unwilling that any farther deference should be paid to their opinion than arises from conviction. He therefore who imagines, that an ill-grounded opinion is generally received, has nothing to restrain him from a candid inquiry. But arguments adduced in favour of any opinion will have little weight, if another be previously received as true. To ensure therefore a fair examination, it is, in the first place, requisite to remove prepossession. These remarks will sufficiently account for the attention I have here bestowed in attempting to refute an opinion different from that which I endeavour to establish.

It is an opinion taught, and at this place very generally received, with regard to the operation of mercury, that

the good effects it produces, in the cure of *lues venerea*, are to be ascribed to the evacuation which it occasions. After attentively examining this hypothesis, I cannot help thinking that it is ill founded. Notwithstanding, therefore, the authority by which it is supported, I have, with freedom, stated what to me seem strong objections against it.

AFTER having endeavoured to overturn one hypothesis, I have attempted to establish another. The opinion I support is by no means new. The honour of invention therefore must be totally resigned to others; but the praise of broaching novelties is always to be relinquished when it comes in competition with the support of truth; and I should consider myself as having done a great deal, were

I able to give satisfactory evidence of any important but doubtful point.

AFTER this inquiry concerning the operation of mercury in the venereal disease, I next proceed to make some observations with regard to its use.

MERCURY has been employed in the cure of the venereal disease in a great variety of forms. Most of these, upon their first introduction into practice, have been extolled as the safest and most effectual method of using it in every case. Experience, however, sufficiently demonstrates, that this holds with regard to no mercurial preparation hitherto discovered. Whether such a preparation may yet be discovered, is difficult to say. In this treatise, I have not proposed any mercurial which was not formerly in

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use. But if, on the one hand, I have no title to lay claim to the merit of a discovery, I cannot, on the other, be charged with being the first proposer of any dangerous practice.

IN treating of the use of mercurials in *lues venerea*, my aim has been different from that of most authors. What I have principally had in view, is not so much to recommend any particular preparation, as to determine the comparative advantages of some of the most effectual ones at present in common use. I have likewise endeavoured to point out those circumstances to which each is best adapted. To this I have subjoined the principal cautions to be observed in the employment of mercurials; those more especially which respect the

nature of the medicine, the condition of the patient, and the necessary regimen.

ON these subjects, a good collection of observations would unquestionably be of the highest utility. How far I have succeeded, must be left to others to determine. To those who imagine I have not altogether failed, I need offer no excuse for having published. To those who are of a contrary opinion, it will be sufficient to observe, that every attempt to be serviceable should apologise for itself.



# C H A P. I.

## *Of the General Properties of Mercury.*

**M**ERCURY is a production of the mineral kingdom. In its natural state, it is of an opaque metallic substance, of very considerable specific gravity. To the eye, it appears like melted lead, or silver; from which it has derived the name of *quicksilver*. In this condition, when freed from every admixture, it has neither any perceptible smell nor taste; and, as its application to the most sensible parts of the body occasions no irritation, we may conclude, that it is void of all acrimony.

By very intense cold, artificially excited, mercury may be brought to a so-

lid form; but, in the greatest natural cold hitherto known, it remains always in a fluid state. By heat it is rendered very volatile, exhaling totally in fumes; these fumes, upon being exposed to cold, condense again into running mercury.

MERCURY, like most other metallic substances, is found in the earth, either in a pure state, or in that of an ore. The first has been called *virgin-mercury*, and is in general found by the miners in drops or small grains; sometimes indeed it is observed in larger quantities, and forms the appearance of small streams. In the state of ore, it is most frequently combined either with sulphur, or with earthy matters; from which it is readily extracted by distillation. It is found in both these states in different places of Europe, particularly in Spain and in Hungary; but

Britain is principally supplied with it from the East-Indies. •

MERCURY was not unknown to the antients. In the early ages of medicine, indeed, it seems to have been esteemed a virulent poison; but it has now, for some centuries past, been much, and successfully, employed for the purposes of medicine, as well as of other arts.

THE Arabians were the first who employed it in the cure of diseases; but they seem to have used it externally only, and applied it for discussing tumors, cleansing ulcers, and curing cutaneous eruptions. Soon after the introduction of the venereal disease into Europe, mercury was found to be the most expeditious and most effectual, if not the only certain, remedy. The advantages which are to be

derived from its employment in this disease, both when applied externally, and taken internally, have now been confirmed for a length of time too considerable for allowing the least foundation either to doubt its efficacy, when properly used, or to dread its deleterious effects, when judiciously managed.

THE effects of mercury on the human system in a sound state are very various. When mercury, in its crude state, is introduced by the mouth into the alimentary canal, it passes off by stool, without producing any effect. It has indeed been alledged, that in this state, in some morbid affections, it may be useful in removing obstructions by its weight. But it is to be remembered, that, in a great part of its passage through the intestines, it rises in opposition to gravity, and that

It is very apt to divide in such a manner as to make its way through very small openings. This effect, then, is perhaps in general, if not always, to be disregarded.

WHEN mercury is prepared in such a manner as to be readily soluble in the fluids of the human body, the effects it produces are much diversified. Its action is often immediately exerted upon the stomach; in which case vomiting is produced. This effect is observed from the use of many mercurial preparations. The brown and green precipitates and calcined mercury act as rough and strong emetics; but the preparation principally used, where it is intended to act as an emetic, is the yellow precipitate, or Turpeth mineral.

MANY of those mercurials, which have

not such an influence upon the stomach as to produce vomiting, upon entering the intestinal tube, act as purgatives. This effect of mercurials is, among other preparations, particularly remarkable on the use of the Coralline mercury, Prince's powder, or calomel.

MERCURIALS, which fail in producing either purgative or emetic effects, frequently act as diaphoretics. Diaphoresis, or even a profuse sweat, is often the consequence of many of the mercurials already mentioned. But when this effect is wanted, by means of mercurials, it is most commonly obtained by the use of a solution of corrosive sublimate.

MERCURY entering the circulating system exerts particular effects on different excretories; but in a more especial

manner on those of the saliva. Salivation is an effect which may be obtained from the proper administration of almost every mercurial preparation ; but for this purpose either the mercurial pills, or friction with mercurial ointment, are most frequently employed.

MERCURY may enter the system, exist in considerable quantity there, and be carried off by the different excretories, without producing any remarkable evacuation, or other apparent change, on the sound state of the body. That it is actually present in the system in such cases, is demonstrated by a general tendency to an increase in all the secretions. Mercury in this way, although it produces no visible effect on a healthy person, often procures the removal of a diseased state.

Its action, therefore, in such circumstances, is termed *alterative*; an effect which may be obtained from most of the mild mercurials, especially when used in small doses.

FROM these various modes of operating, it may readily be concluded, that mercury must be a powerful remedy in the cure of many diseases. The undoubted effects which it produces on the human system, when labouring under the venereal distemper, it would be both difficult and unnecessary fully to enumerate. It heals ulcers, removes swellings, alleviates pains, and cures eruptions. In short, the almost infinite variety of symptoms under which this disease makes its appearance may, by a proper application of mercury, be effectually eradicated from the constitution.

FROM these effects, it is not surprising, that, in this distemper, mercury is the almost universal remedy. But, while it cannot be denied that peculiar advantages may be reaped from the employment of mercury in the venereal disease, it must at the same time be acknowledged, that, from the injudicious use of this medicine, very great evils have been produced. Whatever, therefore, relates to its proper administration, must be esteemed of importance. But to determine this, it is in the first place requisite to ascertain the principles upon which it operates. In treating of the present subject, then, an examination of the most probable opinions, with regard to the mode of its operation in the venereal disease, first claim our attention.

## C H A P. II.

*Concerning the Opinion, that Mercury cures the Lues Venerea by the evacuation it produces.*

THERE are few medicines with regard to the operation of which all practitioners are agreed. It is, however, by no means incumbent on him who means to establish the truth of any one opinion to overturn every hypothesis advanced on the same subject. But, as the arguments urged in favour of any hypothesis will have much less weight when another is previously believed to be true, and as the regulation of practice is, in every case, to a certain extent, founded upon theory, no inconsiderable advantage may be derived from overturning an ill-founded opinion,

especially when it is generally received. The theory of the action of mercury, as well as of other substances, has afforded room for a diversity of opinions. For the reasons mentioned above, then, although it is by no means intended, that every opinion, with regard to the operation of that medicine, should here be considered; yet, as it is a very prevailing opinion, that the good effects obtained from mercury in the cure of *lues venerea*, depend upon its action as an evacuant; and, as a variety of seemingly strong arguments have been adduced in favour of that hypothesis, it will be necessary to examine how far they are sufficient to establish its truth.

IN favour of the opinion, that mercury cures *lues venerea* by acting as an evacuant, the following arguments have been

employed. It is alledged, that the good effects obtained from mercury in the cure of this disease, are in proportion to the evacuation which it produces; that the cure produced by mercury depends more upon the stimulant power of the preparation which is employed, than upon the quantity taken; and that the same good effects are obtained from other evacuants as from mercury; particularly, that the venereal disease is cured in a similar manner from the employment of guaiac. The arguments here enumerated, if not the only ones upon which this opinion is founded, are at least those which are principally employed. To examine, then, how far these are well founded, will be sufficient.

THE first argument here adduced is, that the good effects of mercury are proportioned to the evacuation which it pro-

duces. This assertion, if allowed to be true, might, at first sight, appear to be a very strong argument in favour of the theory here adopted. But it is strong in appearance only ; for, although it should be admitted, it in fact proves nothing.

BUT, even previous to this, it might be made a question, how far what is here assumed as a fact is well founded ? And if it should appear, that mercury does not cure *lues venerea* in proportion to the evacuation which it produces, a strong argument might from thence be brought against this theory. But what may be said on this question will, with greater propriety, occur when the objections to the theory come to be adduced, than in attempting to refute and invalidate the arguments brought in its favour. At present, it will be sufficient to show, that,

even allowing it to be true, it is no argument in favour of the supposition.

IF it be true, that mercury cures *lues venerea* in proportion to the evacuation it produces, it may indeed, with some degree of probability, be concluded, that the evacuation and cure are not unconnected. And, if the evacuation is not the cause of the cure, it might at least from thence be inferred, that both of them depend upon the same cause; but it no more, unquestionably, follows from thence, that the evacuation is the cause of the cure, than that the cure produces the evacuation.

THE degree of evacuation which, in any case, arises from the employment of mercury, will, it is natural to imagine, be proportioned to the quantity of active

mercury which is introduced into the system. But, in whatever way mercury acts in the cure of the venereal disease, it may then be supposed to act most powerfully when it is present in the system in most considerable quantity. In this point of view, then, the evacuation which arises from the use of mercury is to be considered merely as an index of the quantity of the medicine which is introduced into the system in an active state; and the cure may be proportioned to the evacuation, only as pointing out the degree in which the mercury exists in the habit. Even supposing, then, that the foundation upon which this argument is built were not to be called in question, yet, taken in its greatest latitude, it is still at best but doubtful; and from it no conclusion can be drawn in favour of the theory which it is brought to support.

THE second argument mentioned in proof of the supposition that mercury acts, in the cure of *lues venerea*, as an evacuant, was, that the cure produced by mercury depends more upon the stimulant power of the preparation employed, than upon the quantity of mercury which is used.

THIS argument may be answered in the same manner with the preceding. It is indeed true, that different preparations of mercury, when used in equal quantities, have by no means equal influence in the cure of *lues venerea*. There is seldom an opportunity of observing what would be the effects of the most stimulant preparations, as, in the venereal disease, they are by no means in common use; and as, from their action on the alimentary canal, they exert very violent

effects, without entering the circulating system. They, in general, operate very roughly, both as emetics and purgatives; but it is not clear that, in the venereal disease, any benefit has been obtained from their effects in either of these ways. It can therefore by no means be allowed, that the foundation of this argument, in its full extent, is strictly true. It cannot indeed be denied, that some preparations of mercury, which possess a considerable stimulant power, have a greater influence in the cure of *lues venerea*, than several others which are less stimulant. So far, then, the foundation upon which this argument is built, must be allowed to be just, and its weight, as tending to establish this theory, requires a refutation.

BUT, even admitting it to be just, without any reserve, still, no more than

from the former, can any conclusion be drawn from this in favour of the theory which it is meant to support. It has already been observed, that, in whatever way mercury operates in the cure of *lues venerea*, its good effects may always be supposed to be proportioned to the quantity of the medicine which enters the system in such a state as to become active there. But the quantity of active mercury entering the system can in no case be judged of from the quantity of the preparation which is employed. One preparation of mercury much more readily admits of a mixture with the animal fluids than another; in consequence of this, it will find a more ready entrance into the system. And further, this variety in the facility of access into the system, not only holds in different

preparations, but even in the same preparation at different times.

IN proof of the first of these propositions, we have a convincing example in the difference which is observable between the effects arising from the use of crude mercury, and of this metallic substance, when no other means are used to render it active than simple trituration. It is well known, that even a very inconsiderable quantity, taken in this last way, will soon shew its effects at the most remote excretories of the body; in the other, although swallowed to the quantity of many pounds, it is a very rare occurrence that any effects can be observed from which it can be concluded, that it has, in any degree, entered the mass of circulating fluids.

BUT it was likewise alledged, that mercury, used at different times, although given in equal quantities and in the same form, produces very different effects. Crude mercury, as has already been observed, although swallowed in considerable quantities, rarely produces any other effect on the body, than what arises from the passage through the alimentary canal. This, however, although generally, is not universally the case. On some occasions, when taken in this way, it operates with as great activity as when used in any other form; and, from many well attested instances, it appears, that, by being swallowed even in a crude state, a high salivation has been excited. In this we have an instance in which a remarkable difference of effect arises from the employment of the same preparation at different times. This diffe-

rence cannot arise from the quantity of mercury employed ; for while, in some cases, no operation of the nature here mentioned takes place from the use of a large quantity, in others, it will be excited where an inconsiderable quantity only has been taken. The difference of effects here observed, then, must be ascribed to some other cause ; and it is most reasonable to refer it to particular accidents in the constitution at the time the medicine is used. In these cases, where no operation takes place from its use, it may be concluded, that the whole quantity of mercury swallowed has passed through the alimentary canal in the same state in which it was taken in. When, on the other hand, an operation upon the salivary glands, or any other excretory remote from the alimentary canal, is observed from the use of crude mercury, it may be concluded,

that part of the mercury, from some peculiarity in the habit at the time, such, for example, as the presence of superabundant acid in the stomach, has been brought into such a state as to be capable of entering the circulating system. From these instances, then, it evidently appears, that the facility with which mercury enters the system, admits of very great variety. And from this a strong objection may be adduced against the argument here brought to support the hypothesis that mercury cures *lues venerea* by its evacuant power.

It is alledged, that mercury cures *lues venerea* by the evacuation it occasions; because the good effects derived from its employment are observed to be more in proportion to the stimulant power of the preparation which is used, than to the

quantity of mercury taken. The data, however, here assumed by no means lead to the conclusion deduced from thence. The most stimulant preparations of mercury, by their action on the *primæ viæ*, are in general immediately expelled from the system. When this happens, they have no influence in the cure of venereal complaints. When they are not thus expelled, their nature is such that they most readily enter the system. Their superior action, then, may be accounted for without supposing that it depends on their producing the most considerable evacuation.

FROM the facts as here stated, it indeed follows, that the good effects obtained from mercury are greatest in those cases in which the mercury enters the system in most considerable quantity. The eva-

evacuation, it is true, is then likewise greatest. But this will unquestionably follow as the necessary consequence of the presence of active mercury in the system, and can by no means be concluded to be the cause of the cure. The evacuation which occurs in this case, then, as was observed in the objections adduced against the last argument, can be considered only as an index of the quantity of active mercury which is present in the system. The superior activity, therefore, which some stimulant preparations possess, when compared with those of a milder nature, is by no means a proof of the supposition that mercury cures *lues venerea* by means of the evacuation which it produces; and this argument, as well as the former, may be set aside.

The third argument mentioned in fa-

vour of this theory, and the last which we proposed to consider, is, that the same good effects, in the cure of *lues venerea*, may be obtained from the employment of other evacuants, as from that of mercury ; and particularly, that the venereal disease is cured in a similar manner by the use of guaiac.

THIS argument, if well founded, would indeed be a conclusive proof of the theory, in support of which it is here adduced. Evacuation may be occasioned by a great variety of other means besides mercury. The influence of any discharge, as tending to cure *lues venerea*, will fall more particularly to be considered in stating the objections against this theory. A full answer, then, to the first part of this argument, would at present be superfluous : But it may be observed,

that it is by no means a common practice to attempt the cure of *lues venerea* by the safest and most effectual evacuants now in use ; and that, when evacuants are employed for the cure of other diseases, while a venereal infection at the same time exists in the system, it is never found to yield to them. This first part of the argument, then, may be shortly answered, by denying it to be true.

It is indeed true, that much benefit has been alledged to be obtained from guaiac in the cure of the *lues venerea*. Experience, however, has sufficiently demonstrated, that these testimonies are not altogether to be relied upon. The influence of guaiac may perhaps be very considerable in certain stages of *lues venerea*, when the malignity of the disease is already overcome by means of mercur-

ry ; or in particular climates, where the nature of this infection seems to be in some degree different from what it is in this country. But, how far the good effects of guaiac are established by facts in this climate, and before a cure has been attempted by mercury, is still a matter of great doubt. And, at any rate, even the most sanguine advocates for the use of guaiac will allow, that the good effects obtained from its use are by no means to be put in competition with those which are derived from the employment of mercury.

BUT, even admitting all that has been said in favour of guaiac to be strictly true, still it does not follow, that it cures the *lues venerea* by evacuation. Many medicines which operate much more powerfully as evacuants have no

such effect. And, what was formerly said with regard to the cure of *lues venerea*, being proportioned to the evacuation produced by mercury, may perhaps, with equal justice, be applied to guaiac. It cannot be, with certainty, concluded, that the evacuation in either case is to be looked upon as the cause of the cure, since, in both, it may only be its concomitant. From this argument, then, nothing can be inferred, which has any tendency to establish the truth of the theory in support of which it is adduced.

THUS have we examined the different arguments used in favour of the supposition, that mercury cures *lues venerea* by acting as an evacuant. And, from this examination, it appears, that they admit of satisfactory answers. What

has then been said in proof of the theory, can by no means be considered as sufficient to establish its truth. But the insufficiency of the arguments adduced in support of it, is not the only reason for not adopting it. There are many objections to this hypothesis, which would have been sufficient for rejecting it, even supposing that the arguments brought to prove it had been such, that no fallacy in them could have been detected. That this theory, then, may, with less hesitation, be set aside, it will be necessary to mention a few of these objections.

It obviously occurs as a first objection to this theory, that evacuation, from its nature, cannot easily be supposed capable of producing a cure of *lues venerea*. The changes which evacuation may pro-

duce upon the fluids of the body, can only be conceived to be of two kinds. They must either depend on a diminution of the quantity of the fluids, or on a change of their quality. But, it is not easy to conceive how the effects of the *venereal virus* should be removed, or on what footing this virus should be expelled from the system, by either of these changes, when induced by evacuation.

A mere diminution of the quantity of circulating fluids, is certainly insufficient for the cure of *lues venerea*. The venereal matter, as present in the body, must either be diffused through the whole mass of fluids, or confined to particular parts only. If it be diffused through the whole mass, the taint, even after the most considerable evacuations, will remain equally strong in the fluids still left in the body. And, as the vene-

real virus evidently possesses a power of assimilation, when in the human system, the whole mass of fluids would soon return to its former state. This being the case, then, it must be allowed, that an inconsiderable diminution of quantity cannot reasonably be supposed to counteract an infection which exists in the remaining mass.

If, on the other hand, the venereal poison be supposed to exist only as a noxious matter in the body, when collected at particular parts, it is equally difficult to conceive, how evacuation from its nature should produce a cure. It never has been observed, that mercury particularly encreases the discharge by those parts where the venereal matter appears actually to exist. In almost every case where it is used only internally, there is

no encrease of evacuation by venereal ulcerations. It cannot, however, be imagined, that a discharge which takes place by the salivary glands or skin, will particularly evacuate what is lodged in the genitals, or extremities. We may therefore, with certainty, conclude that evacuation does not at least cure *lues venerea* by any change arising merely from a diminution of the quantity of circulating fluids.

EVACUANTS may perhaps be alledged to operate in the cure of *lues venerea* in another manner. It may be supposed, that they remove the distemper from a change which they produce in the quality of the circulating mass. But, from the smallest consideration, it will appear, that this supposition is equally unsatisfactory as the former. If, from

evacuation, a diminution takes place equally from every part of the mass of circulating fluids, no change of quality will ensue. If, however, this proportion is not properly observed, a change of quality will indeed take place. But that change will consist merely in the diminution of particular parts in a compound mass, and can never be supposed to remove a contagious matter of any kind, even supposing it to be lodged in the particular part of that mass thus diminished. Much less will it remove an infectious matter uniformly diffused through the whole parts of the compound mass, or existing as a morbid matter in particular parts of the body only. From the nature of evacuation, then, whether it be supposed to operate by a diminution of the quantity of circulating fluids, or by any change it

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can produce in point of quality, it may readily be concluded, that it is by no means fitted for the cure of *lues venerea*.

ANOTHER and more conclusive objection against the supposition that mercury cures *lues venerea* by evacuation, is, that this disease is by no means cured by evacuation taking place in an equal, or even in a greater degree, from other causes. This, however, should of necessity be the case, were the former supposition well founded. Effectually to overturn this theory, then, it will be necessary only to establish the truth of this assertion.

It cannot perhaps be alledged, that any fair trial has ever been made of evacuation, instituted solely with a view to

cure the venereal disease, and that in such cases it has been found to fail. But, without any such trial, there are sufficient arguments to shew, that for this purpose it really is ineffectual.

*Lues venerea* would never, upon its first introduction, have been considered as so unconquerable a disease, could it have been cured by evacuation. Various modes of evacuation were then in common use in medicine, and considered as the most effectual means of cure in many diseases. The venereal distemper, till the introduction of mercury, resisted the power of almost all the medicines employed against it; and, in some parts, it was at that time reckoned so incurable, that the police of the country obliged the unhappy sufferers who laboured under it to separate themselves from all inter-

course with the rest of mankind. While this was the condition of the distemper, is it to be imagined that every method of cure was not tried? May we not, then, conclude, that, upon the first introduction of this disease, evacuation, by every known means, and carried to the greatest height, was had recourse to, but without effect?

But, to prove that evacuation will not cure the distemper, it is needless to travel back to the first periods of this disease, or to rest the evidence even upon the highest probability. From what occurs in many morbid cases, we have every day evident proof of the insufficiency of any discharge for producing a cure of the venereal disease. *Lues venerea* often exists at the same time with diseases in which an increase of natural evacuations

takes place. None of these diseases, whether the evacuation happens by the salivary glands, as in small-pox, by stool, as in dysentery, or by the skin, as in intermittents, have ever been found to break its force, much less to produce a perfect cure.

BESIDES what happens in natural evacuations, we have likewise proofs of the insufficiency of artificial evacuations for the cure of this disease. Although evacuation, at least by other means than by the use of mercury, is never now employed as a cure for the venereal disease; yet venereal complaints are often complicated with others, for which various evacuations are proper. And while evacuations are, with success, employed for the cure of these, it is found, that the venereal taint either remains unchanged,

or is even increased in force. It cannot here be alledged, that the difference of effect depends upon the mode of evacuation. On such occasions, every mode of evacuation has been tried with equal want of success. Even salivation, which was long considered as the only effectual discharge, when excited by other means than by mercury, or even by mercury itself, when externally applied to the organs secreting saliva, has not been found more effectual than other modes of evacuation. In some cases, indeed, mercury received into the mouth by steam, or otherwise, has had good effects; but these were either to be accounted for from its application to the diseased part, or from its introduction into the system. It is, then, sufficiently evident, that evacuation, at least by o-

ther means than mercury, does not cure *lues venerea*.

To this theory it may be urged as a third, and not less powerful objection than any of the former, that where the evacuation arising from the use of mercury in *lues venerea* is the greatest, the cure is often retarded; and that mercury never more frequently fails than in those cases where it begins to evacuate upon its first introduction into the system.

THAT these assertions are true, at least of the obvious discharge produced by mercury, will not be refused by any advocate for its action as an evacuant. To this, indeed, they may think it a satisfactory answer, that the influence of mercury as an evacuant cannot be judged of from the apparent discharge. It may be al-

ledged, and indeed with some appearance of reason, that the greatest discharge produced by mercury is by insensible perspiration; that mercury, in consequence of this, is a more powerful evacuant than many other medicines by which a greater obvious evacuation is produced; and that it has the effect to increase perspiration in a more remarkable degree, when it increases no other discharge than when it induces the greatest obvious evacuation. But although it cannot be denied, that the use of mercury does increase insensible perspiration; and that evacuation in this way may, on some occasions, be greater than what would arise from salivation or any other obvious discharge; yet these facts by no means tend to any conclusion which will remove the difficulty formerly stated. Nor can it from thence be supposed, that mercury

always evacuates most powerfully in those cases where it produces the most successful cure.

THE degree of evacuation which takes place from the employment of any medicine cannot indeed, in every case, be ascertained by the obvious discharge. But, where the judgment formed from this test would be fallacious, the marks of inanition consequent upon the use of any medicine are always certain tests for determining the degree of evacuation. From these it is evident, that the suppositions here advanced, that mercury operates more powerfully as an evacuant than any other medicine, and that it always produces a greater discharge when it acts by the skin, than when it affects the salivary glands, or any other excretory, are entirely without foundation.

FROM the marks of inanition appearing in the system, it is demonstratively proved, that, from a variety of other means, a greater evacuation can be produced than from mercury. In such circumstances, however, by mercury the venereal disease is cured, by these other evacuants it is not. And farther, where the cure of *lues venerea* has been retarded by a salivation occurring early, or where no cure has taken place after salivation has been continued for a considerable time, there is every mark of a much higher degree of inanition than when the disease has been removed by mercury without any sensible evacuation. There can remain no doubt, then, that the cure of *lues venerea* is by no means in proportion to the evacuation which it produces. This, however, should ne-

cessarily be the case, were the cure effected by evacuation.

UPON the whole, then, from what has been said of this theory of the action of mercury in the cure of the *lues venerea*, it appears, that the cure can by no means be referred to the evacuation. The different arguments adduced in favour of that theory, we have endeavoured to shew, either proceed on wrong principles, or, although admitted in their greatest latitude, can afford no ground for any conclusion to support it. Evacuation, from its nature, whether supposed to operate by diminishing the quantity of circulating fluids, or by any change it can induce in their quality, can scarce be conceived to be a cause adequate to the cure of *lues venerea*. Evacuation does not produce a cure of the

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venereal disease, when it takes place in an equal, or even in a much greater degree, from the employment of other medicines, than when the disease is effectually removed from the use of mercury. And, *lastly*, the venereal disease is never more effectually cured by mercury, than when it is evident, from every mark by which the degree of evacuation can be determined, that the evacuation arising from it is least considerable. It may, therefore, with confidence be asserted, that mercury does not cure *lues venerea* by evacuation.

## C H A P. III.

*Concerning the Opinion, that Mercury cures Lues Venerea, by acting as an Antidote to the Venereal Matter.*

IT is an undoubted fact, that mercury, by proper management, cures *lues venerea*. From the arguments already adduced, it has been concluded, that the cure, thus obtained, is not the consequence of evacuation. Having rejected this prevalent opinion, then, it next remains to say, in what manner a cure is produced.

It has long been an opinion, very generally received, that mercury is a substance capable of destroying the venere-

al virus; or that, from being united with this virus, possesses a power of rendering it inactive. Many arguments tend to prove, that this is in reality the case; and that in this manner it cures *lues venerea*. But, at the same time, this theory is not to be considered as without difficulties. The first that occurs, is, with regard to the mode in which an opportunity is afforded for a mixture of the mercury with the virus.

It is, in general, imagined, that mercury may destroy the venereal virus in the mass of circulating fluids. The venereal virus is unquestionably taken into the human system by the absorbent vessels to which it is applied; and, before it can reach various parts of the body, in which it evidently manifests itself, it must enter the general mass of fluids.

We cannot, then, consider it as a supposition totally absurd, that mercury, if it be capable of destroying the activity of the venereal matter, may produce that effect while the virus is present in the general mass of fluids. Many objections, however, may be urged against this supposition; and, if it be adopted, it must be allowed to be with difficulties.

IF mercury destroy the venereal virus, while it exists in the mass of circulating fluids, it must produce this effect, either by an alteration of the general mass; or by acting more particularly on the venereal matter itself. The whole mass of circulating fluids, taken collectively, is a very considerable quantity of matter. The action, therefore, of a small proportion of mercury, as producing any change upon it, cannot be very great.

It is not easy to conceive, then, how a destruction of the venereal virus should arise from any alteration which the mercury is capable of producing on the general mass.

THE difficulty occurring to the first supposition here made, would naturally lead us to consider the second. But that the action of mercury, while it exists in the mass of circulating fluids, should be exerted on the venereal virus alone, is a supposition equally unsatisfactory as the former. Before this can be imagined to be the case, it is necessary to suppose, that there exists, between mercury and the venereal virus, some particular attraction. Such an attraction, however, is a thing as yet by no ways proved to exist; nor indeed does there seem to be any sha-

dow of reason to suppose that it does exist.

ALTHOUGH, then, it cannot be denied, that mercury and the venereal virus may exist in the mass of circulating fluids at the same time ; yet, from what has been said, the supposition, that the activity of the virus is then destroyed, will appear to be attended with many difficulties. It cannot, it is true, be alledged, that, from any thing which has been urged, this supposition is refuted. That it may perhaps, in some degree, act in this way, is by no means impossible. But it is to be remembered that this is a hypothesis supported by no proof ; and the more imaginary any opinion is, the less easily can it be overturned. The present opinion, then, may be set aside, for reasons, which, in other respects, would be insufficient

for its being rejected ; and this the more readily, if another and more probable hypothesis can be advanced which is not liable to the same objections.

To determine the manner in which mercury acts on the venereal virus, it might seem requisite that the nature of this poison should first be ascertained. In what the activity of the venereal virus consists, it is difficult, perhaps impossible, to say. Various conjectures have indeed been offered with regard to it. But what has hitherto been advanced upon that subject is so hypothetical as scarce to deserve a serious refutation. What could, therefore, be derived from an inquiry of this nature, without a more perfect knowledge of the subject than has hitherto been attained, would be but of little utility.

BUT, although the peculiar nature of the venereal virus, and those principles in consequence of which it becomes active, are unknown, yet its general effects, as acting on different parts of the human body, are sufficiently obvious. The parts morbidly affected by the venereal virus, at different times, put on different appearances. This, however, is in common to all of them, that, when reduced to the state of an open ulcer, they discharge an infectious matter capable of propagating the disease. It cannot therefore be doubted, that the venereal matter occasions the morbid affections there observed from its actual existence at these places.

As the places evidently affected by the venereal poison are frequently very distant from those to which the poison has

been first applied, and do not lie in the course of the absorbents, it can only be carried to them in the course of circulation. But, even while the poison is present in the circulating system, no change can be detected on the general mass of fluids; nor in by much the greater part of the solids in the body. Many changes may take place in the fluids of the human body which cannot be said to constitute a diseased state. That such changes may be esteemed morbid, it is necessary that they should manifest themselves over the system in general. If, then, we are to judge by these principles, it follows, that the venereal poison does not produce a morbid state in the general mass of fluids. It evidently acts as a cause of disease in particular parts, whether it first comes to be applied to these

by immediate contact with external objects, or arrives at them in the course of circulation. Probably it acts as a morbid cause in these places, from being, by some accident, detained there, in consequence of which the quantity of the poison is increased by assimilation. This opinion, with regard to the influence of the venereal virus in producing the disease, will lead to a different conjecture concerning the operation of mercury, as tending to destroy it.

IF this opinion be true, the venereal poison may be supposed to be productive of disease, only when collected at particular parts. This would lead us to conclude, that, if mercury possesses a power of destroying the venereal virus when it comes in contact with it, it can only produce a cure of *lues vene-*

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*rea* from being topically applied to the poison collected at particular parts of the body. Mercury, however, unquestionably does produce a cure of the venereal disease. If, then, it can be shewn, that mercury in reality is an antidote to the venereal virus; and that, previous to its producing a cure, it is topically applied to those parts in which the venereal virus is lodged, we may reasonably conclude, that the cure obtained from its use is to be referred to its action as an antidote from topical application. To establish this supposition, then, it is first necessary to show, that the mercury is in reality topically applied to the venereal matter.

MANY medicines, taken into the alimentary canal, are known to have the most powerful effects in the cure of

diseases very remote from thence. While this happens, there are the strongest reasons for believing, that the medicine itself never passes the alimentary canal, or is in any respect introduced into the system. In such cases, therefore, it evidently produces a good effect on parts to which it is never applied. It may then occur, as a possible supposition at least, that this likewise may be the case with mercury,

MERCURY indeed produces many good effects by its action on the *primæ viæ*. But, when it is given in any of those forms in which it is of service in the venereal disease, those cases excepted where it is immediately applied to the diseased part itself, various phænomena tend to prove, that it actually does enter the mass of circulating fluids. It is only,

from the introduction of mercury into the system, that various actions which it exerts in different parts of the body can be accounted for. Thus, for example, when it excites salivation, whether from being taken by the mouth, or from being rubbed upon the extremities most remote from the salivary glands, there is every proof which can be required that the mercury is actually present at these glands. The taste alone is sufficient to evince this. From the same mark also, we may be assured of the presence of mercury in the mouth, even when it is not introduced into the system in such a quantity as to excite salivation.

IN all these cases, the mercury can only reach the mouth in the course of circulation. But, if it enter the mass of circulating fluids, it must, from the

known and established laws of circulation, be equally carried to every different part of the body; and, among others, it cannot fail to be applied to those parts in which the venereal matter does exist. This first assertion, then, may be considered as sufficiently established; and, it remains only to show, that mercury, when it comes in contact with the venereal matter, has a power of destroying it.

THAT mercury, when it is exhibited in such a manner as to be capable of conjunction with the venereal matter, has a power of rendering it unactive, is an assertion, which, it might be imagined, could be put to the test of experiment. But, experiments of this nature could not be performed without hazard; and, in the

end, would perhaps be only undecisive. Although, however, no certain criterion has in this manner been obtained, there are not wanting arguments to render the opinion at least highly probable.

IN favour of the supposition, that mercury, in reality, possesses a power of rendering the venereal virus inactive, it may be observed, that an action in this manner is at least conceivable; and that it is analogous to what we have an opportunity of observing in other cases of nature. Many substances which possess the most active powers in nature, have these entirely destroyed, or totally altered, from combination with other substances. This holds remarkably of mercury itself, when united with sulphur. These, taken separately, are each of them substances

of a most active nature ; conjoined, the mixture becomes inert, or acts only as sulphur.

FROM what has been said, then, it appears, that, in some cases, mercury by combination loses its active powers. But this fact will appear less singular, if such a destruction of powers holds not of mercury alone, but of other substances likewise. That it does, is exemplified in the mixture of sulphur with different metallics, as in the case of antimony. In the mixture of acids with alkalines, there is, if not a destruction of activity, at least a total change of properties. But to multiply instances of this kind, would be superfluous. Enough has been said to show, that there is at least nothing inconsistent with the common course of nature, in supposing, that such a mutual relation takes place be-

twixt mercury and the venereal virus: It may then be considered at least as a possible supposition, that, from the addition of the former, the latter is destroyed, or rendered inactive.

But the proof of this antidotal power to the venereal virus in mercury, need not be rested upon a mere possibility: That mercury, in reality, does possess a power of destroying the activity of this poison, is rendered, if not certain, at least highly probable, from the circumstance of its curing venereal ulcers in consequence of topical application. In daily practice, we have undeniable proof, that mercury, topically applied, does cure venereal ulcers. This holds not only of those ulcers to which dressings can be applied, and continued for a considerable length of time, but of others also

more out of reach, where its application can only be temporary. The advantages obtained from the different modes of applying mercury to ulcers in the throat, whether in the form of steam or gargle, sufficiently shew the truth of this assertion.

THE cure produced in all the cases of ulcers to which mercury is topically applied, is unquestionably to be referred to an immediate action upon the part. It takes place without any marks of the mercury having entered the system. And it can by no means be alledged, that, in such cases, any general affection, such, for example, as an increased discharge, is produced. But it is perhaps needless to insist on this, as in those instances the cure is never at-

tributed to any other mode of operation than that of immediate action. As far, then, as the assertion, that mercury cures ulcers from topical application, can prove any thing in favour of its possessing an antidotal power, it may be assumed as an undeniable fact.

It has indeed been alledged, that the cure here arising from the topical application of mercury, is entirely to be referred to its action as a stimulus to those parts to which it is applied. But this is an opinion, which, for many reasons, can by no means be admitted. Other stimuli which operate more immediately and more strongly, have by no means an equal effect. When mercury stimulates in the highest degree, the best consequences are by no means observed to arise from

it. And it often produces a cure from topical application, where no effects of its operating as a stimulus can be observed. From these facts, it is evident, that the cure of venereal ulcers, produced by the topical application of mercury, can by no means be referred to its stimulant power. This naturally leads us to ascribe it to some other cause.

IN the venereal disease, different parts of the body are ulcerated, and kept in that state, from the activity of the venereal poison. When, therefore, these ulcers come to be healed, the natural conclusion is, that the activity of the virus, which occasioned and supported the ulceration, is destroyed. But if mercury applied to venereal ulcers does cure them, when that cure cannot be ascribed to any action of mercury, either upon the

system in general as an evacuant, or upon the part particularly affected, as a stimulant, may we not, with justice, say, that it possesses a power of destroying the activity of this virus? in other words, that mercury is an antidote to the venereal poison? From this, then, it follows, that the action of mercury as an antidote, is not merely a thing possible, and analogous to what happens in other cases of nature; but that the real existence of such a power is incontestably proved.

To this argument, it may indeed occur as an objection, that mercury does not in every case, from topical application, produce a cure of venereal ulcers. This, it might be imagined, should happen, did it operate in the manner here alledged. But it is to be remembered,

that the venereal virus may often be so situated, while it produces an external sore, as to be totally out of the reach of any application made to the surface of that sore. And, even in cases where the seat of the virus is superficial, the mercury may be applied in such a form as will not readily admit of a conjunction with the virus. Those cases, therefore, in which mercury has failed of producing a cure, can never afford any sufficient reason for setting aside this argument. But, on the other hand, any one well vouched instance, in which mercury, by being topically applied, has produced a cure in the manner here alledged, is a sufficient foundation, for every thing which has been advanced from this fact, to prove the supposition of its being an antidote to the venereal poison.

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FROM what has been said, it appears, that mercury is an antidote to the venereal virus ; and that, whether it be introduced into the circulating system, or used externally only, it comes in contact with the venereal virus in those parts in which it is lodged, previous to its producing a cure. It may, then, be reasonably concluded, that the theory formerly suggested is well founded ; and that mercury cures *lues venerea* from its power as an antidote, in consequence of its being actually applied to the venereal matter.

IN favour of this hypothesis, it may farther be urged, that it is confirmed by a proper attention to many phænomena attending the cure of *lues venerea* by mercury ; while at the same time it is not e-

qually liable to objection, as the other theories which have been mentioned.

FROM the supposition of a topical action in the manner here supposed, the fluid to be acted upon is, as it were, separate and distinct from the general mass. In this case, then, the objection, that the effects of the mercury will be taken off from the quantity of matter upon which it has to act, will not apply. At the same time there is here no necessity for having recourse to any hypothetical attraction between mercury and the venereal virus.

It cannot, indeed, be alledged, that, in this case more than in the former, any obvious change occurs in the appearance of the venereal matter in consequence of

the use of mercury. But the venereal matter, even in the most detached state in which it ever exists in the human body, is always blended with a certain proportion of pus and other humours. From this circumstance, we can never become acquainted with what is its real appearance. It cannot, therefore, be reasonably expected, that any changes which take place in it should become the object of observation. But observation sufficiently demonstrates a manifest difference in the effects produced by this virus, after the use of mercury, when compared with those which that virus before produced. That, therefore, in consequence of the employment of mercury, its nature is in reality changed, is but a reasonable conclusion.

IT was formerly adduced, as an argu-

ment in favour of another supposition, that the cure of *lues venerea* produced by mercury was proportioned to the quantity of discharge which the mercury occasions. This assertion we have already attempted to show is by no means, in every case, true. It must, however, be allowed, that in some cases it does hold, and in those cases more especially where the discharge takes place from the system in general. To account for this on the theory here advanced, it is only necessary to consider in what manner such a discharge arises from the internal use of mercury.

THESE evacuations are, without doubt, to be referred to the mercury reaching and acting upon the excretories by which they are made. The quantity of these discharges, then, will, in many cases,

serve as a standard by which to determine the quantity of active mercury circulating in the system. But, in proportion to the quantity of mercury which circulates in the general mass of fluids, a greater or less quantity will come to be applied to every part in the body; and, among others, to those places in which the venereal matter exists. Upon the supposition, then, that mercury acts in the cure of *lues venerea* as an antidote, it is easy to see how the cure should, in such cases, come to be proportioned to the quantity of the discharge.

MERCURY, as was already observed, does not always produce a cure from external application. Where this fails, the cure is often effected by internal use. Mercury, from being used internally,

comes to be applied to parts otherwise inaccessible, and even to the interior surface of superficial sores, to which, from external application, it cannot penetrate. From this, it is obvious on what principles the internal use of mercury co-operates in the cure of *lues venerea* with external application ; or produces a cure alone where it is not used externally at the same time.

ALTHOUGH the cure of *lues venerea* from mercury may often correspond with the quantity of the evacuation, yet it frequently happens, that, from the early increase of any one particular discharge, the cure is frustrated. This is particularly experienced in those patients in whom the almost immediate effect of mercury is to excite salivation. While this fact is a very strong objection against the

supposition that mercury cures by operating as an evacuant, it can readily be accounted for upon the theory here adopted. In such habits, the quantity of mercury accumulated in the circulating fluids can never be very great, as it finds a ready outlet from the system.

BESIDES these phænomena, this theory affords a ready solution for many others also. From hence it is easy to account for the obstinacy of this disease after it has affected the bones. When that has happened, the application of mercury to the part affected, whether it be externally applied, or taken internally, can only be obtained after long continued use.

FROM this also we can learn the reason why the venereal disease will sometimes return, without any new infection, after

a seemingly complete cure by means of mercury. The disease will be apparently cured, because the mercury may have totally destroyed the poison at some particular parts; but it will return from the virus still remaining lodged in others, to which, from a course sufficient to destroy it in more accessible parts, the mercury could never penetrate.

It appears then, that to the other arguments formerly adduced in favour of this theory, may be added, the ready solution it affords for various phaenomena observed with respect to the cure. And, from all the arguments taken together, it may be concluded, that this theory is to be adopted, if not as absolutely certain, at least, as less embarrassed with difficulties, and as supported by more probable arguments than any other.

C<sup>h</sup> H A P. IV.*Of the different Mercurial Preparations employed in Medicine.*

**M**ETALLIC substances in general, when employed for the purposes of medicine, have been used in many different forms : But none of them, perhaps, has been exhibited in a greater diversity of preparations than mercury. Some mercurial preparations have never been employed in the cure of *lues venerea* ; and many formerly in use are entirely banished from the present practice in this disease. All these may be considered as unconnected with the subject here treated of. But that the nature of those preparations which are at pre-

sent most frequently employed, may be more clearly understood, there will be no impropriety in taking a general view of all the preparations of mercury.

THE mercurial preparations admitted by the Colleges of London and Edinburgh, contain the most useful and most elegant forms employed in practice, at the time when the last editions of their Pharmacopœias were published. But even at that time they were by no means to be considered as compleat lists. And, since that time, other preparations of utility in practice have been discovered.

A more full view of mercurial preparations than can be obtained from these lists, and, at the same time, some information with regard to the circumstances

in which they differ from each other, may be had from a table of mercurials lately published by Dr Saunders of London. In that table, which, with a very few inconsiderable alterations, is the same with one formerly given out by Dr Cullen, when professor of chemistry at Edinburgh, the different mercurial preparations are reduced to general heads, according to the means employed to render them active. From it, the following is almost entirely copied. The names of the different preparations are here printed in *Italics*, and taken from the London and Edinburgh Dispensatories, from the new Dispensatory, and from the Edinburgh Pharmacopœia Pauperum. To these are added, some mercurials introduced by Boerhaave, Astruc, Keyser, and Plenck. From the letters subjoined to each, it will appear from

whence the preparations are taken ; and, where an asterisk is prefixed to any one, it denotes, that it is to be considered as perfectly analogous to that immediately preceeding.

M



A

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O F

## MERCURIAL PREPARATIONS.

### I. Mercury rendered active by triture.

a. Without any addition.

*Tragea Keyserii.*

b. With honey.

*Pilulae mercuriales.* E. 1744.

c. With balsam.

*Pilulae mercuriales.* L.

*Unguentum caeruleum fortius et mitius.* L.

*Emplastrum commune cum mercurio.*  
L.

\* *Emplastrum mercuriale.* E.

*Ceratum mercuriale.* L.

d. With refin.

*Pilulae mercuriales.* E.

*Pilulae Æthiopicae.* E.

e. With gum.

*Solutio mercurialis.* Plenck.

*Pilulae mercuriales.* P.

*Syrupus mercurialis.* P.

f. With fuet.

*Unguentum mercuriale.* E.

g. With absorbent earths.

*Mercurius alcalizatus.*

h. With fugar.

*Mercurius faccharatus.* E.

i. With sulphur.

*Æthiops mineralis.* L. E.

*Æthiops antimonialis.* Ph. Paup. E.

k. With bread.

*Pilulae mercuriales.*

I. With conserve of roses.

*Bolus caeruleus.*

II. Mercury calcined by heat.

a. Alone.

*Mercurius calcinatus.* L.

\* *Mercurius praecipitatus per se.*

b. With gold.

*Mercurius praecipitatus solaris.*

Ast.

III. Mercury sublimed with sulphur.

*Cinnabaris facilis.* L.

*Cinnabaris antimonii.*

IV. Mercury rendered saline.

a. By vitriolic acid.

*Mercurius emeticus flavus.* L.

\* *Mercurius praecipitatus flavus.*  
E.

\* *Turpethum minerale.* E.

b. By nitrous acid.

*Solutio mercurii.* E.

*Calx mercurii.* E.

c. By muriatic acid.

*Mercurius sublimatus corrosivus,*  
E. L.

*Mer. praecipitatus albus.* Boer.

*Aqua aluminosa.* E.

*Aqua phagedaenica.* E.

*Mercurius violaceus diaphoreticus.*  
Ast.

\* *Flores ammoniaco-mercuriales.*

*Solutio mercurii per deliquium.* Ast.

d. By vegetable acid.

*Mercurius tartarizatus.*

*Pilulae Keyserii.*

# V. Saline preparations of mercury rendered milder.

## A. By abstracting acid.

### a. By calcination.

*Mercurius corrosivus ruber.* L.

\* *Mercurius calcinatus.* E.

\* *Mercurius praecipitatus ruber.* E.

### b. By attraction.

#### a. Of water.

*Pulvis principis.* N. D.

#### b. Of alcohol.

*Mercurius corallinus.* L.

*Panacea mercurii.* E. 1744.

#### c. Of water and alcohol.

*Arcanum corallinum.* N. D.

*Panacea mercurii rubra.* N. D.

#### d. Of camphire.

*Pilulae e turpetho minerali.*

Ph. Paup. E.

c. By attraction and precipitation.

a. Of fixed alkali.

*Mercurius praecipitatus fuscus.*

E. 1744.

b. Of volatile alkali.

*Mercurius praecipitatus.* L.

*Unguentum e mercurio praecipitato.* L.

c. Of volatile alkali and copper.

*Mercurius praecipitatus viridis.*

E.

B. By addition of mercury.

*Mercurius sublimatus dulcis.*

L. E.

\* *Calomelas.*

\* *Aquila alba.*

C. By addition of unguent.

*Unguentum citrinum.* E.

VI. Saline preparations of mercury rendered acrid, or kept so.

- a. By redissolving precipitate.

*Mercurius præcipitatus solutus.*

- b. By addition of acid.

*Solutio sublimati cum spiritu salis.*

- c. By suspending with ammoniacal salt.

*Mercurius corrosivus nitrosus.*

\* *Ward's white drop.*

*Mercurius corrosivus muriaticus.*

## C H A P. V.

*Of the Mercurial Preparations intended to act immediately on the Parts affected with Lues Venerea.*

EVERY preparation of mercury may perhaps, under proper management, be successfully employed in the cure of the venereal disease. But by much the greatest number of these preparations neither are, nor ever have been, in common use for that purpose. To treat, at any considerable length, of all that are at present in use, would lead to prolixity and repetition. A few observations on those which, from their being most successful, are at present most frequently employed, will afford sufficient

data for determining the choice of one preparation in preference to another.

THE different modes in which mercury has been exhibited have very universally been reduced to two general heads, and referred either to its employment externally or internally. This division, however, is not without some degree of inaccuracy. Mercury, when taken internally, is very universally thrown into the system in general, without any particular attention to the affected part. When it is used externally, it is for the most part meant to act immediately on the diseased part. This, however, is not always the case; and sometimes the only thing intended by external application is its introduction into the system. But, when this is the case, its external employment is on precisely the same footing with its inter-

nal use. The proper distinction, then, depends not so much upon its being used either externally, or taken by the mouth, as upon the mode in which it is meant to act. Mercury, in every case, is intended either to act immediately upon the affected part, or to enter the circulating system.

IF there be any truth in what has been said with regard to the action of mercury, the manner in which, in each of these ways, it comes to produce a cure, can readily be conceived, and is, at bottom, very similar. But, at the same time, these different modes of using the medicine are, in some measure, fitted for different purposes; and the influence which is exerted in the one way demands attention, which is not always requisite in the other. These methods of using mer-

cury, then, may, with greater advantage, be considered separately than together. And what would claim consideration, in the first place, are those modes of application, in which the mercury is intended to act immediately upon the affected part.

FROM the opinion which was long entertained, that mercury, in every form, was a substance highly poisonous, it is not surprising, that, upon its first introduction into medicine, it should have been used externally only. In this way it seems also to have been first employed in the venereal disease. But, from the tendency which mercury has to enter the system, when used in any form, it is not surprising that its effects, as exciting salivation, should soon have appeared from its use externally. To a salivation thus

excited, it was but natural to attribute the cure. Hence, from its external employment on its first introduction, there are few clear instances of its efficacy as acting immediately upon the venereal virus.

It is not, however, improbable, that, even in these early periods, some part of the influence which mercury had in the cure of *lues venerea* was to be ascribed to an immediate action on the venereal matter. In this way the good effects, in many cases, reaped from fomentations of cinnabar, one of the modes of applying mercury first put in practice, were certainly, in some measure, to be accounted for. It may, then, be affirmed, that the use of mercury, so as to act immediately upon the affected part, is a mode of applying it as early as its first introduction in the venereal disease. And,

from examining the history of this disorder, as well as the various means which have, at different times, been employed in the cure, it will appear, that the immediate action of mercury on parts affected by *lues venerea*, particularly in places most easily reached, such, for example, as chancres, has always been a common intention in practice.

BUT enough has perhaps been said concerning the history of the immediate application of mercury. The present inquiry is with regard to the preparations now employed in this way, and the comparative advantage of each.

AMONG the first, and perhaps the most common forms in which mercury has been, and still is applied, with a view of acting immediately upon the affected part, are the mercurial ointments, ce-

rates, and plasters. In this, as will appear from the table which has been given, the mercury is rendered active by division. Little difference can arise from the substance with which the mercury is combined during the triture. All these preparations, therefore, may, with propriety, be considered together. To this head may be referred, the blue ointments, mercurial cerate, and common plaster with mercury, of the London College; and the mercurial ointment, and plaster, of the Edinburgh.

THESE preparations seem to contain a very large proportion of mercury; and certainly, in their composition, a considerable quantity is blended. But it by no means follows, that the whole of that quantity is in an active state, or is in such a condition as to be capable of

an union with the venereal virus. From late observations, it appears, that by much the greatest part of the mercury, although here rendered invisible, is still in its crude state. The effect, therefore, to be expected from them is by no means to be judged of from the quantity of mercury which has been employed in making them. And they are in reality much weaker preparations than might be imagined.

THESE are often employed as dressings to open sores. But the oily nature of the substances with which the mercury is here conjoined, prevents it from admitting of a ready union with the venereal virus. On this account, their power will be still farther diminished than from the cause formerly mentioned. Hence it may be concluded, that they are not the

most proper mercurial applications for open ulcers. And indeed an examination of the state of the fact confirms this conjecture. For, upon inquiry, it will be found, that in such circumstances greater benefit may be reaped from other mercurial applications.

MERCURY is often meant to act in the venereal disease, without any general affection of the system, or without entering the mass of circulating fluids, where it cannot come into immediate contact with the affected parts. These parts are often deep seated, and, at the same time, the integuments above them are unbroken. In such cases, mercury, applied in a form capable of penetrating, or of being absorbed, promises to be of service. That mercury, in the forms here mentioned, is in this situation,

cannot be denied. And, in such cases, these forms have the peculiar advantage, which many others want, of admitting of an easy, gradual, and long continued application. Hence it is, that singular benefit is obtained from them in the resolution of nodes and buboes.

It may not be improper here to observe, that, for these intentions, particularly the last, which is an affection of the lymphatic glands, it is a very effectual mode of using the mercury, to apply it in the form of unction to those places from which the lymphatic vessels passing through the diseased gland take their rise. In this way, equal if not greater benefit will, in general, be reaped, than from immediately applying it to the tumor itself. By this means, the mercury will be carried with more cer-

tainty, and in greater quantity, to the affected gland, than it would be from pervading the substance of the integuments.

ANOTHER form in which mercury was very antiently used, and still continues to be applied with an intention of acting immediately upon affected parts, is, its being reduced into a state of vapour, by which means it acquires a very high degree of activity. This mode of applying mercury is attended with many inconveniencies, and, in this form, its application, while it is very sudden, can at best be but temporary. It must, however, be allowed, that the active form which the mercury here assumes is a very subtile one. By this means, it becomes capable of penetrating and resolving hard and indurated tumors, which cannot be pervaded by mercury in other

forms. On this account, in such tumors, especially if they have been of long standing, and in obstinate ulcers which have resisted other mercurial preparations, the form of vapour may often be tried with peculiar advantage. For this purpose, cinnabar has commonly been employed. From its being resolved into fume, the mercury and sulphur are disunited, and the activity of the medicine totally depends upon the former arising in a state of vapour.

MERCURY, in whatever way it is used, is most active in these forms in which, from the addition of acids, it is reduced to a saline state. Some of these are in their nature so extremely corrosive, that they can scarcely, with safety, be used even as external applications. This peculiarly holds of those preparations

which are formed by a combination of mercury with the nitrous acid. That they may be fitted for use, therefore, various means are employed to render them milder. Among other methods, one frequently practised, is, the abstraction of acids by calcination. In this manner are prepared the *mercurius corrosivus ruber* of the London college, and the *præcipitatus ruber* or *calcinatus* of the Edinburgh. These are forms of employing mercury which are every day in use, for application to the part immediately affected.

THESE preparations, even after having their action in this manner diminished, still possess a very considerable degree of corrosive power. On this account, they become particularly useful in many cases of venereal complaints,

where corrosives are required. And hence it is easy to learn the foundation for the frequent and advantageous employment of these preparations in cases of fungous edged ulcers, of warts, and other such tumors.

THAT these preparations may be applied more commodiously, they are frequently mixed with different ointments, particularly with basilicon; but, by this means, their power of action is greatly diminished. Where it is intended they should act as escharotics, it is perhaps in every case most proper to employ them in the form of dry powders. Such dressings may then be applied above them as are best fitted to the nature of the complaint.

It may naturally be imagined, that,

from mercury in this form, not only an escharotic power can be obtained, but that likewise, from its action as an antidote against the venereal virus, parts kept ulcerated, from the activity of this poison, may be healed. That, in some degree, it is fitted for this purpose likewise, is not to be doubted. But, to its employment in this way, its corrosive power is often an objection. In many cases, where it is required that an ulcer should be healed, a destruction of solid parts would be highly prejudicial. And when, in order to avoid this, the corrosive power of the mercury is diminished, from its being united with an ointment, the precipitate becomes liable to the same objection which was formerly urged against the efficacy of mercurial ointment. It is then in a state which does not admit of a ready union with the ve-

venereal virus. It may therefore, upon the whole, be concluded, that mercury in this form is principally useful in those cases, where, with the effect of an antidote against the venereal virus, it is necessary to conjoin an escharotic power.

MERCURY may be rendered saline by being united with other acids as well as the nitrous. These likewise are, in general, active preparations; but they do not possess a caustic power, at least in so high a degree as the nitrous preparations. Among the most active of the other saline preparations, are those prepared with the muriatic acid, and especially the corrosive sublimate. This is a mercurial preparation which, in many cases, may be employed to act immediately on parts affected by the venereal virus; it falls,

therefore, to be considered also under this head.

THE stimulant power of corrosive sublimate is so great that it is never, even for external purposes, used in a solid form. But the *aqua phagedænica* of the Edinburgh College, which is a solution of it in lime-water, is a mercurial preparation which has often been used externally, both in venereal and other foul ulcers. This form, however, contains so large a proportion of the mercury, that it is by much too stimulant for the greatest part of sores. A more dilute solution, in common spring-water, is free from this inconvenience, while, at the same time, it serves every purpose which can be expected from the other.

THE mercury in this solution is in

a state sufficiently active to destroy the venereal virus, and is, at the same time, in a condition which will admit of a ready union with itt. Good effects, therefore, might naturally be expected from it, especially as the form is such that it can with ease be applied.

THE efficacy of this preparation has not indeed, as far as I know, been confirmed by long or extensive practice. But, where it is proper to heal superficial ulcers, no application is of greater service than dressings of lint dipt in a solution of the corrosive sublimate in the proportion of half a grain to an ounce of water. The addition of a small quantity of compound spirit of lavender to this solution will give it a colour and smell different from those of common water, which, with

some patients, are necessary conditions to an effectual application. In some circumstances already mentioned, the other modes of applying mercury to act immediately upon the diseased part may be preferable to this. But, where the only requisite to the healing of an ulcer is the destruction of that venereal virus at the part which supports a diseased state there, no application will answer the purpose with greater facility, safety, and expedition, than this solution.

## C H A P. VI.

*Of the Mercurial Preparations intended to act in the cure of Lues Venerea by entering the System.*

**A**N attempt has already been made to explain the operation of mercury, and the manner in which the venereal poison may be supposed to exist as a cause of disease. From these it might perhaps be concluded, that the introduction of mercury into the system was seldom requisite. And it might seem reasonable to infer, that all the advantage which could be obtained from mercury, might be had from its application in one or other of the ways already mentioned. So far,

however, is this from being the case, that it is no uncommon thing with practitioners to inveigh, in the most express terms, against all external applications, those excepted which are of the mildest and most inactive nature. Mercurials have not been excluded, and the healing up of sores, by whatever external means it may be effected, has been considered as highly prejudicial.

It can by no means be asserted, that these accusations against the external use of mercury are entirely without foundation. If properly understood, however, they may be true, without being any objection to the theory. It can never be imagined, that, from the destruction of the venereal virus at a particular part, by any application made there, it should be destroyed in the rest of the sy-

stem. When, therefore, the venereal virus has already been absorbed, a radical cure cannot be expected from the healing of an ulcer. It may even sometimes happen, that, from a partial destruction of the virus in an ulcer, it may be healed externally, and, at the same time, absorption more considerably promoted than if it had remained open.

FROM these circumstances it is easy to see, that, upon the theory formerly adopted, the introduction of mercury into the system is, in many cases, not only proper, but even necessary. But, at the same time, the advantages which, from that theory, we are led to expect from the immediate application of mercury to parts affected by the venereal virus are not less true.

As the first method of using mercury

was by external application, for an action on the parts affected ; so external application was likewise the first means employed for introducing it into the system. For that purpose, all the various modes of applying mercury, which have already been mentioned, have, at different times, been used. Applications of mercury to the surface of the body by unction, plaster, fumigation, and lotion, have each, at different times, and by different practitioners, been recommended as the safest and most effectual method of introducing it into the system. But, after longer and more accurate observation than could at first be obtained, the application of mercury in the form of unction is the only method of introducing it into the system, by external application, which is now in practice.

WHATEVER may be the means used for introducing mercury into the system, it is certain, that, if it do enter it in an active state, it will cure the disease. Its introduction by unction is still by no means an uncommon practice. By several modern practitioners, this method of introducing it into the system is still recommended, as preferable to every other. When properly viewed, however, it must be allowed, that if it be attended with advantages on the one hand, it is by no means free from inconvenience on the other, and in certain circumstances only is a preferable practice.

IN the mercurial ointment, the preparation which is here used, the mercury, as was formerly observed, is rendered active from division by triture. The mercurials prepared in this manner are

in general the mildest in which mercury is in an active state. It may be laid down as an undoubted fact, without pretending in this place to assign any cause for it, that the milder mercurial preparations have a greater tendency to operate by salivation than the more acrid. But there is perhaps no method of exhibiting mercury in which it more certainly operates by salivation, than when it is applied externally in the way of unction.

AFTER what has been said by the greatest authorities in medicine against salivation, it would be unnecessary to add any thing here. It may be sufficient to observe, that it has been pronounced to be a practice not only attended with very great inconvenience, and no inconsiderable danger, but even unnecessary. The tendency, therefore, which this mode

of introducing mercury into the system has of exciting salivation, may be considered as no small objection to its being put in practice.

BUT, while it cannot be denied, that salivation is attended with many inconveniencies, it must at the same time be allowed, that the degree in which it takes place, is, in general, proportioned to the quantity of active mercury which enters the system. And it occurs chiefly in those cases where the medicine is not so acrid as to find an outlet by some other excretory. When, therefore, the disease has been of long standing, and obstinately rooted in the system, altho' salivation may not be necessary for a cure, yet it will be the unavoidable consequence of the employment of that quantity of mercury which is requisite in the

system for overcoming the disease. This mode of employing mercury, then, is not in every case to be rejected from the tendency which it has to excite salivation.

BUT, it may further be objected to this mode of employing mercury, that the quantity of active mercury, which in this way is introduced into the system, cannot be easily ascertained. And that, even before any obvious effect is produced, a much greater quantity may be thrown in, than is really necessary for a cure, from which troublesome consequences will afterwards ensue: These indeed are facts which cannot be denied; and it must even farther be allowed, that all the good effects in the cure of *lues venerea*, which can be obtained from this method of introducing mercury into the system, may be had from the inter-

nal use of other preparations equally mild, and from which the patient is not exposed to the same inconveniences.

FROM these circumstances, it may be concluded, that the introduction of mercury into the system in the way of unction, is neither proper in slight cases, nor in the greatest number of obstinate ones. There are, however, constitutions in which mercury, in any form, is very apt to produce an immediate and violent action upon the alimentary canal. Sometimes it excites vomiting, but more frequently it induces looseness. In such constitutions, these effects do indeed often follow, even when the mercury is introduced by the absorbents on the skin. But they are more certainly the consequence of the immediate application of mer-

cury to the alimentary canal itself. Besides this, when these effects happens from the immediate application of mercury to the alimentary canal, the introduction of the medicine into the system, is often in a great measure, if not entirely, frustrated. And farther, the effects of mercury on the alimentary canal not only less certainly follows, from its introduction by the surface, than from immediate application, but may likewise be more easily obviated. In such circumstances, therefore, a cure of venereal complaints may, with greater certainty and ease, be affected, from the introduction of mercury by the surface in the form of unction than from any other mode of using it.

PERHAPS the most common form of exhibiting mercury in this place, with

a view of entering the system, is that of the mercurial pills. These, when properly prepared, seem, in most cases, to be justly entitled to the preference, which is here so frequently given them. The mercury, in this preparation, is rendered active by the same means, and is in the same state as in the preceeding one. Its operation likewise in this form is very analogous to what it is in the one formerly mentioned. It is here equally apt to salivate as in the form of unction. But the salivation induced by the mercurial pills very rarely arises to so high a degree, at least so suddenly, as from unction. The quantity of mercury introduced into the system in this form, admits of being more certainly ascertained than by unction. The principal ambiguity which takes place with regard to the pills, arises from the difference of

care with which they are prepared, and the degree of solubility in the stomach which those substances possess with which the mercury is combined.

THE mercurial pills affect the guts less than many other preparations of this metal. This indeed might be inferred from considering that the mercury is here in a *very* mild state.

FROM the use of mercurial pills, mercury may be introduced into the system in very considerable quantities. But, as in this form it is not readily discharged by the different emunctories, it is apt to be accumulated in a greater quantity than is requisite for slight cases. In these, therefore, the pills are not so advisable as some other preparations. But, where the alimentary canal can bear mercury

with ease, the mercurial pills are perhaps preferable to any other form, for those obstinate cases where it is requisite, that a considerable quantity of the medicine in an active state should be introduced into the system. And they are particularly proper in those cases which are only to be overcome by a gradual and long continued use of mercury.

To the forms of exhibiting mercury which have already been mentioned, those lately introduced by Mr Plenck of Vienna may properly be subjoined. Of the various preparations which he has proposed, what he seems chiefly to have used himself, and what has been principally employed here, is his simple mercurial solution. What is to be said, then, concerning his preparations, as they are

all very fimilar in their nature, may be confined to this form.

THIS gummous folution is, in the table of mercurials, reduced to the fame general head with the two preparations laft treated of; the mercury in this cafe likewise being rendered active by divifion from triture. Although the ufe of this preparation is but a late propofal, yet, fince its introduction, it has been a good deal employed, and the facts which may be had with regard to it cannot be alledged to be few. That general obfervations, however, may, with juftice, be made, numerous facts are requifite; and perhaps what can as yet be had on this fubject are ftill an infufficient foundation for any certain conclufions.

It may, however, with regard to this

medicine, be confidently asserted, that the opinions upon which its superior efficacy is founded are without foundation. It is a mistake to suppose, that any peculiar affinity, or specific elective attraction, takes place betwixt mercury and vegetable mucilage. And mercury with gum, as well as in other forms, if, from triture, it be rendered sufficiently active, and if it be introduced into the system in sufficient quantity, will also excite salivation. This preparation, then, is still to be considered as, in a great measure, on the same footing with the two others already mentioned.

BUT, united with vegetable mucilage, mercury seems to act less upon the intestines than the mercurial pill. This is probably to be referred to the viscosity of the substance with which the

mercury is here combined. Vegetable gum possesses a remarkable power of sheathing and defending those parts to which it is applied against acrimony of any kind.

THIS preparation, taken in what would seem an equal proportion with the mercurial pill, shows a less powerful action on the system, both in its effects on the excretions, and in its influence on the morbid symptoms. This diminution of action may perhaps, in some degree, be accounted for from the mercury being less readily absorbed into the system, after entering the alimentary canal, in consequence of the viscosity of the gum with which it is united. But as vegetable mucilage, when taken by itself, is observed to diminish the action of mercury, in whatever way it be introduced in-

to the system, this effect must be principally accounted for from some other cause. Probably it depends upon the influence of the mucilage, after having entered the system, in defending the excretories against the violence of the stimulus from the mercury.

THIS form may, upon the whole, be esteemed, although not a powerful, yet, in many cases, an useful preparation. It is chiefly preferable to other mercurials in those recent cases of *lues venerea* where a weak preparation will answer the purpose; and where, at the same time, it seems most advisable that the mercury should be slowly introduced into the system.

THE three preparations of mercury which have already been treated of, when

compared with many others, may be esteemed mild. There are a different set, which, in opposition to these, may be termed *acrid*. Of the acrid preparations, not a few have likewise been used in the cure of *lues venerea*, and for this purpose introduced into the system in different forms. To treat of all of these would not only be deviating from our first intended plan, but would lead to many unnecessary repetitions, and needless inquiries, with regard to medicines which are now by no means in common use. Calomel and corrosive sublimate may be esteemed the two extremes of the acrid preparations; the first being the mildest, the last the most stimulant, which is, in the present practice, ever used internally. These two are, at the same time, the acrid preparations which are perhaps most frequently employed in the cure of

*lues venerea*. To treat of these therefore will be sufficient.

CALOMEL, it has been observed, may be considered as the mildest of the saline preparations of mercury. In this preparation, the basis of which is the corrosive sublimite, the mercury is reduced to the form of a saline compound, by means of the muriatic acid. But it is afterwards rendered less acrid, from the addition of fresh mercury in repeated sublimations. It has by many been esteemed the most useful of the mercurial preparations, not less for other purposes for which mercury may be employed than for the cure of the venereal disease. The good effects which may be obtained from its use in this complaint are confirmed by undoubted experience. And, when it is introduced

into the system, there can be no question with regard to its efficacy in destroying the venereal virus.

CALOMEL acts as a more general stimulant in the system than the milder preparations of mercury. And it discharges itself by the different excretories, when present in the mass of circulating fluids, in no very considerable quantity. Hence, it can be less accumulated in the system than the other preparations formerly mentioned. To this circumstance it is probably owing, that it less frequently excites salivation than these do. If, indeed, it be given in large doses frequently repeated, and does not at the same time affect the intestinal canal, it will excite salivation. From this, it may be concluded, that then the active mercury is present in the

system in a very considerable quantity. But, when in this way, even such an accumulation can be obtained, it is to be considered only as on the same footing with the milder mercurial preparations, in those constitutions which are readily salivated. Here, therefore, as in habits naturally disposed to salivation, the presence of any quantity of mercury in the system will be very transient, and a salivation occurring will often frustrate the cure to be expected from it.

CALOMEL, from its general stimulant power, may readily be supposed to affect the intestines more considerably than the milder mercurial preparations; and, in fact, it is found, that, in many cases, it much more readily excites looseness than they do. From this circumstance, it can be less easily introduced into the system,

especially if the alimentary canal possess uncommon irritability.

IF these assertions with regard to this mercurial preparation be well founded, it will be easy to determine in what cases calomel is preferable to other mercurials, and in what it is to be considered as less proper. It cannot be considered as well adapted for those inveterate and obstinate cases in which a long and gradual use of mercury is requisite, and to overcome which it is necessary that a considerable quantity of mercury should be accumulated in the circulating system. On the other hand, if the intestines are not very irritable, it will be particularly serviceable, in many recent cases, in which a speedy action of mercury is advisable; and, in those where the venereal virus has not yet made its way into

the circulating system, but is detained in the lymphatic, or in the mucous glands. From its sudden evacuant power, it may likewise be of great service where mercurials in the venereal disease are intended to be conjoined with an antiphlogistic course, or to make a part of it.

WHAT has been said of calomel may be considered as sufficient, with regard to the milder part of the saline preparations. It now only remains, then, that some observations should be offered on corrosive sublimate, which is the most acrid of these that is usually employed internally.

CORROSIVE sublimate, it has already been observed, is the basis of the preparation last treated of. But, in this preparation, the mercury, from the propor-

tion of muriatic acid which is united with it, is in a very acrid state. When taken in substance, even in a very inconsiderable quantity, it proves a virulent poison to the human frame. To this circumstance it was probably owing, that, for a very long time, it was used only for external purposes, and even then, from its high stimulant power, not without the greatest caution. But the many inconveniencies attending salivation, which was at the same time found to be by no means absolutely necessary to a cure, induced practitioners to make trial of preparations less apt to have that effect, than those which had formerly been used. As every preparation of mercury, in proportion to its acrimony, has a greater tendency to act upon the surface, and less to affect the salivary glands, it is not

surprising that corrosive sublimate should at length have been proposed.

THE violence with which corrosive sublimate acts, has always been a sufficient reason to prevent its being thrown in, either in large quantities, or in substance. Of late years, however, a weak solution in ardent spirits has been recommended as an efficacious remedy, and often used with success. But, as it has been found that the mercury is apt to precipitate from this menstruum, if the solution is kept for any time, water has often been substituted to the spirits. Water is perhaps, in every case, even by itself, a better menstruum than spirits; but, besides this, it may be much improved, from having its solvent power increased by the addition of sal ammoniac. By

this means, the precipitation of the mercury may be, in a great measure, if not totally, prevented.

CORROSIVE sublimate, when introduced into the system, is, as well as calomel, very universally stimulant. But its chief tendency, unless prevented by some accident, is to operate upon the surface. For the most part, it powerfully excites diaphoresis, and in this way is speedily evacuated from the system. But, if there is in the patient's constitution a want of disposition to diaphoresis, or if the discharge by the surface is suddenly checked by the application of cold, it frequently acts upon the salivary glands, inducing salivation.

FROM the success with which the use

of corrosive sublimate has been attended, it cannot be doubted that it is highly active in destroying the venereal virus. And, either from the circumstance of its entering the system more readily, or from its greater activity, it produces an equal effect, in the cure of *lues venerea*, to what arises from most other mercurials, even when it is employed in a less considerable quantity.

THIS preparation, in proportion to its superior acrimony, is more apt to affect the bowels than any of the other mercurials already treated of. This circumstance is, in many cases, an unfurmountable objection to its use. From its high stimulant power, it can never be lodged in the system in any considerable quantity. Notwithstanding its activity, there-

fore, it is not well fitted to eradicate obstinate complaints. From its influence upon the alimentary canal, its use cannot with safety be continued for any considerable length of time. It is not, therefore, well adapted for those cases which require a long and gradual use of mercury.

As this is a form in which a quantity of very active mercury may suddenly be introduced into the body, it may be supposed well adapted for producing some alleviation in urgent symptoms. From the tendency it has to act upon the surface of the body, it may be presumed to be a preparation of great utility against cutaneous affections from a venereal cause. If recourse is had to the examination of facts, it will be found,

that the conclusion, which would here be drawn from reasoning, is confirmed by experience; and that, in reality, the solution of corrosive sublimate may be employed with peculiar advantage in both these cases.

Thus much with regard to calomel and corrosive sublimate. Many other preparations, of an intermediate degree of acrimony between these, such, for example, as the *mercurius calcinatus*, are likewise in common use. But the cases to which we would be inclined to suppose these best adapted, may easily be learned from what has been said of the two extremes.

## C H A P. VII.

*Of the Cautions to be observed in the  
Employment of Mercury in Lues  
Venerea.*

**F**EW medicines, from which any considerable advantages can be obtained in the cure of diseases, are of such a nature that they can, in every circumstance, be exhibited without any inconveniency. On the contrary, the greater activity any medicine possesses, the more reason there is to apprehend disagreeable accidents from its being improperly used. When active medicines, therefore, are employed, it becomes, in every case, an object of particular attention, while we endeavour to obtain all the good effects which may be derived from them, to avoid those

bad consequences which they are most apt to induce.

THESE ends are to be obtained only by careful attention to many circumstances. Of the accidents most to be guarded against, not a few are, in a great measure, the natural consequence of the medicine itself. Although, in some constitutions, and with particular treatment, they will arise more readily than in others; yet they may happen in any constitution, and with any treatment. As occurring, therefore, most generally, they deservedly claim to be first considered.

It has already been observed, that every medicine, in proportion to its activity, is more apt to be followed by consequences not always to be wished for. It

may therefore be laid down as a general rule, that active medicines should be employed only in cases where they are absolutely requisite. If this rule is proper with regard to any medicine, it must be so of mercury.

It is however but too true, that mercury is frequently employed in cases where its use might readily be dispensed with. And this holds not more of its employment in other diseases, than in some venereal complaints. When, indeed, the venereal virus has actually entered the system, perhaps a cure, by means of mercury, is in every case at least to be attempted. And a cure without it, by any medicine at present in use, is seldom, if ever, to be depended on. But, where the matter occasioning the affection is still in a state of topical application only,

as happens in the case of gonorrhoea, the introduction of mercury into the system is totally unnecessary. And a cure may be effected by other means, not only with greater safety and ease, but likewise with more expedition.

MERCURY, in an active state, when introduced into the system, has, in every case, more or less a tendency to affect the intestines. This action, while it seldom co-operates with its other effects in curing the disease, frequently produces the most mischievous consequences in the constitution. When it occurs, therefore, it is but natural to think of checking it. This may often be successfully done, by the employment of means fitted to promote a determination to the surface. Where this method fails, it may fre-

quently be obviated, by giving opium at the same time with the mercurial.

ANOTHER consequence which often arises from active mercury, when introduced into the system in any considerable quantity, is its exciting salivation. This discharge is attended with numberless inconveniencies, and it is at the same time no farther necessary to a cure, than as it is a proof of the quantity of active mercury which is in the system. But, where mercury in the greatest quantity is requisite to a cure, to keep the patient upon the verge of a salivation is all that is necessary. Salivation, then, on its first appearance, is always to be restrained. For this purpose, it is necessary, that the use of the medicine should for a little be intermitted. Where that is insufficient, deter-

mination to the surface, by means of diluent diaphoretics, has a tendency to restrain this discharge as well as the former, and may often, for this purpose, be used with advantage. But, in general, salivation will be most successfully checked, by increasing the determination to the intestines by means of cooling purgatives.

As well as other discharges, that by sweat may likewise, from the use of mercurials, take place in a degree not to be wished for. Although this discharge is attended with much less inconvenience than either of the two already mentioned, yet it may often be proper to restrain it. This may be done by keeping the patient more thinly clothed, and in a cooler temperature than before, and by a cautious exposure to open air.

THE accidents already enumerated are the most common ones which can be considered as depending on the nature of the medicine itself. But, besides these, a variety of others, although less frequently occurring, might likewise be referred to this source. Independent of that affection of the gums and mouth, which, for the most part, is the forerunner of salivation, it sometimes happens, even where no particular exposure to cold can be blamed as a cause, that the whole head is remarkably swelled. Where this takes place, it is in general the consequence of throwing in the mercury too suddenly, and may best be avoided by a more sparing and gradual use of the medicine.

FROM continuing the use of mercury for a considerable time, in some cases,

febrile complaints will arise. These, if they admit of a cure, while the use of the mercury is continued, will most readily be overcome by the means commonly employed for the relief of hectic fever. But it seldom happens, that these symptoms can be removed without omitting the use of the mercury. In such cases, therefore, even although from the remaining appearance of a venereal taint, the farther continuance of mercury would seem adviseable, yet, when these febrile symptoms supervene, it is for the most part necessary, to trust the cure to other means.

THE action of every medicine, and consequently the circumstances claiming attention in its employment, are considerably varied by peculiarities in the habit in which it is given. What, in this

respect, therefore, is chiefly to be attended to in the use of mercury, falls next to be considered.

ALTHOUGH it has been observed, that the accidents already mentioned may happen in any habit; yet it is certain, that in some particular habits, they will much more readily take place than in others. Where constitutions, therefore, naturally exposed to these accidents do occur, it is necessary, that the means to be employed for preventing the inconveniencies which would arise from thence, should be had recourse to, more early than in patients of a different constitution.

MERCURY, when introduced into the system, has always a tendency to produce evacuation. At particular periods of

life, evacuation is less easily born than at others. Hence, the long continued use of this medicine, or its employment in a considerable quantity, are always particularly to be avoided with people much advanced in life, or with infants.

DURING infancy, mercury may likewise produce inconvenience, from its stimulant power. On this account, the more acrid preparations are, during that period of life, to be avoided. If, however, their use should be esteemed necessary, they are to be employed only in small doses.

STIMULANTS are not more dangerous in irritable habits than they are in plethoric ones ; or in those in whom the force of the circulating fluids is very great. On this account, with patients in

the vigour of life, evacuation is often requisite previous to the use of mercury.

THESE observations suggested by the age of patients using mercury, would naturally lead to the consideration of such as result from sex. From the laws of the male system, few, if any directions which will not fall under other heads, are peculiar to men; but, in the female œconomy, there are many circumstances which require particular notice.

MERCURY promotes menstruation, and is apt to produce it in an excessive degree. On this account, it is always proper to intermit its use for some time previous to the flow of the menses, and during the continuance of this discharge. From the influence it has up-

on this evacuation, its use to any considerable degree during the term of pregnancy, is totally inadmissible. When mercury is used during nursing, it has such an effect upon the milk, that a child suckled by a woman who takes it, may by that means be cured of the venereal disease.

IN different diseases, where the child is healthful, the influence of mercury on the milk would be an objection to its use, during nursing, for any particular complaints of the woman. But, where a nurse labours under the venereal disease, since in this situation she can never be supposed to suckle a child not likewise infected, as the remedy is equally necessary for both, there is no reason for delaying to attempt a cure during that period.

THE different temperaments of patients, as far as they are marked by obvious signs, and have been distinguished by medical writers, afford little ground for particular observations with regard to the use of mercury. What has been said with regard to the prime of life, holds more especially with those of a sanguine habit; and the observation made concerning old age, in some degree, applies to the melancholic. But, with all temperaments, mercurials may in general be used without any peculiar preparation; and, during their use in such cases, no particular cautions are necessary which will not be suggested by other circumstances.

BUT, although it is necessary to say little with regard to temperaments obviously distinguishable; yet it is well known,

that very great varieties in the operation of mercury arise from peculiarities in constitution. And this happens where there are no particular marks indicating such a singularity. Some constitutions are affected by mercury with very great ease, whether as acting on the alimentary canal, or as entering the system, and exerting its effects there. In cases, therefore, where the constitution of the patient is not previously known, some degree of preference is, on this account, due to the mildest forms. And, in those cases for which the more acrid ones seem best fitted, it is necessary to begin with the employment of small doses; and, if the action of these shall be found to be too violent, to have recourse to the different means of taking off sensibility. The most immediate, and perhaps the most effectual, means of removing or di-

minifhing fenfibility, is by the ufe of opium. But the fame end may, in many cafes, be obtained with equal eafe, and lefs hazard, from the ufe of emollient and mild diluents; fuch as decoctions and emulfions, abounding with vegetable mucilage.

WHILE fome conftitutions are eafily affected by mercury, others, on the contrary, are acted upon with difficulty only. With thefe laft, after the ufe of even a very confiderable quantity of mercury, little, or perhaps no obvious action on the fyftem can be obferved. This is to be afcribed to one of two caufes; either it arifes from the mercury's never having entered the fyftem; or from its being accumulated there without proving a ftimulus to any fecretion. In the latter of thefe cafes, all the effects wanted

from the use of mercury may be obtained with greater ease than in any other.

THE only thing, then, which is necessary in such cases is to proceed with caution, and not to throw into the system an unnecessary quantity of mercury, by which the patient may be exposed to those inconveniencies which, in a greater or less degree, accompany every increased excretion.

BUT it is not always an easy matter to distinguish betwixt this and the case first mentioned, in which it was alledged, that the want of obvious action arose from the mercury's not having entered the system. When this happens, a gradual and slow procedure would not only be losing time to the patient, but allowing the disease to gain ground. The

only certain mark for distinguishing betwixt these two cases, is the change produced in the morbid symptoms. In the one, the disease remains either unaltered or increased ; in the other, all the symptoms are manifestly changed for the better.

IF, from this test, it appear, that the want of obvious action after the use of mercury proceeds from its not having entered the system, a very different treatment is necessary from what was proposed in the former case. Here it is requisite, without loss of time, to have recourse either to a different preparation of mercury from what was formerly used, or to a different method of introducing the medicine.

THE circumstances already mentioned

as claiming attention, regard peculiarities of constitution where no other disease except *lues venerea* can properly be said to exist. But it often happens, that the venereal disease exists in patients who are, at the same time, affected with other complaints. This affords a very extensive field for particulars to be attended to in the employment of mercury. To treat of the variety of diseases which may, in any degree, be affected by it, would be an almost endless task. In some, the mercury will be of service, as tending to a cure; many others, on the contrary, are by its use rendered evidently worse. Its influence in aggravating complaints has been said to hold, among a variety of other diseases, in cases of epilepsy, gout, and rheumatism. But on this subject attention is chiefly requisite to scurvy and hæmoptoe.

IN scurvy, mercury very generally occasions a quicker progress of all the complaints. Hence, when, in such circumstances, it easily can be avoided, it is a medicine never to be employed. Cases, however, will occur, in which, although scurvy actually does exist, the use of mercury will be adviseable. In such cases, if the mercury is used slowly and cautiously, a cure of the venereal symptoms may be obtained, without rendering the scorbutic complaints much worse; but, if the mercury be suddenly thrown in, disagreeable symptoms will often arise. Of these, the principal are foetid gangrenous ulcers, affecting the inside of the cheeks, the tongue, the palate, or the gums. It may farther be observed, that, although these are in general the consequences of the imprudent use of mercury; yet they will sometimes arise where

it has been used even with the greatest caution. When they do happen, let their cause be what it will, there is, in every case, so much danger as to make it necessary to discontinue the use of mercury. Recourse is then first to be had to the employment of such means as are best calculated for the removal of scurvy. If this can once be effected, the removal of the venereal complaints may be attempted, either by the employment of other means of cure, or even by resuming the use of mercury.

ANOTHER complaint, which may be complicated with the venereal disease, and during the existence of which particular caution is necessary in the use of mercury, is hæmoptoe. That habit of body which particularly disposes to hæmoptoe is well known, and, even where

the disease has never existed, can be detected by obvious marks. Many patients, after having been once attacked with hæmoptoe, are seemingly cured, and have every appearance of being restored to perfect health. Both these situations may be considered as, in a great measure, the same: In either, hæmoptoe will be induced from very trifling causes. Among others, the use of mercury has frequently been observed to have this effect. In all such cases, then, it is necessary that mercury should be used in small doses, and introduced slowly into the system.

NOTWITHSTANDING every precaution, it sometimes will happen, that hæmoptoe will arise from the use of mercury. When this is the case, it is necessary not only to abstain from the use

of the medicine, but to have recourse to those means which are found to be most effectual in the cure of so dangerous a symptom. For this purpose, bleeding, refrigerants, and astringents, must be employed, as the circumstances of the patient direct. While the hæmoptoe continues, the use of mercury is not to be attempted. And although, by these means, it should happen to be removed, this medicine, unless in cases where the venereal symptoms are very urgent, is not to be ventured upon for some time, even in the most gentle forms.

WE have now pointed out the principal circumstances claiming attention in the employment of mercurials, which depend either on the nature of the medicine itself, or on the condition of the patient in whom it is employed. It now only

remains, then, to offer some observations with regard to the necessary regimen. What is to be said on this subject will respect either diet, temperature, or exercise; each of which may be considered in order.

IT has been alledged, that mercury operates in the cure of *lues venerea* by acting as an antidote to the virus which produces the disease. If this is the case, it is difficult to see how any particular diet can have the least tendency to promote its operation. In adapting the diet to the medicine, then, the principal thing to be attended to, in this case, is, to order such a one as will most readily counteract those accidents which the medicine is apt to induce. The accidents chiefly to be guarded against, from the use of mercury, are those arising from its sti-

mulant power. In diet, therefore, it is in the first place requisite, that every thing stimulant should be avoided. And then, if it can be done, such substances are to be employed as, when taken into the system, have a tendency to counteract a stimulus.

FROM these general principles, it is easy to see what diet is in this case to be recommended. The use of butcher-meat, and indeed of animal food in general, of wine, and of spirits of all kinds, are, from their stimulant quality, if not to be totally forbid, at least to be used sparingly. Food of every kind much salted, or highly seasoned, is to be discharged. And all such substances as would act upon the mercury, while yet in the stomach, are particularly to be avoided. The diet should be of the mildest and

blandest nature, consisting chiefly of farinaceous, and mucilaginous vegetables, and of milk. The drink should be such as will quench thirst and dilute, if at the same time the patient will take what will act likewise as a demulcent, it is often preferable to such fluids as will answer only the two first intentions. For these purposes, water with toast, milk and water, barley-water, mucilaginous emulsions, or the like, may be employed with advantage.

THE diet here pointed out as most suited to the nature of the medicine, is likewise best adapted to that of the complaint. As the venereal disease depends upon the introduction of a peculiar virulent matter into the system, it will scarce be imagined, that any species of diet can have great influence in

the cure. But, when it is considered, that the manner in which this matter acts, is, in the first instance, by exciting inflammation, it may readily be conceived, that, from a particular diet, its action may be rendered less violent than it would be otherwise. As, for this purpose, the antiphlogistic regimen is unquestionably the most proper, it is only necessary to add to what has already been observed, that the diet above recommended should be used sparingly.

IT has very universally been esteemed necessary, that those who use mercury should be kept in a warm temperature. And it is an undoubted fact, that no medicine renders the body more susceptible of injury from cold than mercury. In consequence of a sudden exposure to

cold during the use of this medicine, the most fatal accidents have been observed to arise. He therefore who has taken mercury cannot be too cautious in guarding against this extreme.

BUT, to avoid the inconvenience which may be produced by cold, there is no necessity for running into the opposite extreme. Confinement to a very warm chamber, and the use of a number of flannels, produce a temperature which, although not so dangerous as cold, is equally improper. The cure of *lues venerea*, if not frustrated by the discharges thus promoted, is often retarded, and less easily obtained than it would otherwise be. After a patient has for some time been kept warm, a sudden exposure to cold is hurtful, because

the parts are unable to bear the stimulus which it occasions. The same effect does not follow upon a change from a cold to a hot temperature, not only because this is seldom so sudden, but because it likewise promotes many different evacuations.

THERE appears then an evident cause why the one extreme is more dangerous than the other. But the inconvenience from either is a sufficient objection to it. What is required of temperature during the use of mercury, is, that it be such as to support a proper balance betwixt the different excretions. To obtain this, a temperature inclining to neither extreme is in general the most proper. When, however, there appears in the constitution a peculiar disposition to the aug-

mentation of any excretion, the temperature in which the patient is kept should incline to the extreme least apt to encourage it.

FROM what has been said of temperature, it will appear, that it is not necessary in every case, and at every season of the year, that those who take mercury should be confined to a chamber. But, when the circumstances are such as to admit of a patient's going abroad, all violent exercise is to be avoided. From violent exercise, the patient is liable to the same inconveniencies as from a hot temperature, and frequently to all the dangers resulting from a sudden exposure to cold. Of exercise, as of temperature, it may be observed, that it should be so regulated, as to support a proper

balance among the different excretions. For this purpose, when the patient is abroad, moderate exercise is in general requisite. For the same reason also, even when the patient is confined to his chamber, such moderate exercise as can there be obtained, is for the most part proper.

F I N I S.

*Lately Published,*

By the same A U T H O R,

In one Volume, OCTAVO,

PRICE in Boards, 4 *ſb.*

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